What tool will I use to determine my projects GHG reductions?

The following are 2 tools are used for purposes of AHSC GHG Quantification:

CalEEMod*
Land use emissions calculator designed to quantify GHG emissions and criteria pollutants associated with land use development projects, including residential and mixed use developments.

Developed by the California Air Pollution Control Officers Association (CAPCOA)

Transit and Connectivity (TAC) Methods**
Based on Congestion Mitigation and Air Quality Improvement (CMAQ) Methods for evaluating the cost-effectiveness of certain types of transportation projects, including bicycle paths, vanpools, and new bus service. Estimates VMT reductions for certain project features that are not captured in CalEEMod.

**Developed by the California Air Resource Board.*

For the AHSC Program, projects that include an Affordable Housing Development (AHD) or Housing Related Infrastructure (HRI) will use **CalEEMod http://www.caleemod.com/** for vehicle miles traveled (VMT) quantification purposes. Projects without a housing-related component will use the methodologies from the **TAC Methods**. For projects with both components, VMT reductions will be calculated using both methodologies for the respective components. GHG reductions are estimated from VMT reductions.

Example Project Features and Quantification Method (QM)

AHSC Project Features	CalEEMod	TAC Methods
Affordable Housing (including affordable housing developments, housing-related infrastructure, and substantial rehabilitation of housing)	x	
Mixed use development	x	
Transit and commute improvements (e.g., transit subsidy) associated with housing or other land use development	x	
Regional transit projects (e.g. new bus service, vanpools) **NOT** associated with housing or other land use development		x
Bicycle paths or lanes		x
Pedestrian facilities		x
Affordable Housing **AND** Vanpool program	x	x

Greenhouse Gas Quantification Methodology for the Strategic Growth Council Affordable Housing and Sustainable Communities Program: Greenhouse Gas Reduction Fund, Fiscal Year 2015-16 (pp. 4). California Air Resources Board. Sacramento: December 18, 2015.

What if my project features would reduce VMT but those features are not included in the QM?

Please contact AHSC program staff.

How does my specific Project address VMT reduction?

For Projects with an AHD or HRI component, the following Project characteristics affect VMT reductions *(for details see pp.7-21 of AHSC QM)*

Land Use and Site Enhancement		
Measure	**Description**	**Maximum VMT Reduction**
Increase Density	Housing development density is greater than 7.6 dwelling units per acre	30%
Increase Diversity	Multiple land use types in project	30%
Improve Walkability Design	Project area has >36 intersections per square mile	21.3%
Improve Destination Accessibility	Project is within 12 miles of a Central Business District (CBD)	20%
Increase Transit Accessibility	TOD Project within 3 miles of Qualifying Transit; ICP/RIPA Project within 3 miles of Qualifying Transit AND headways of <75 minutes	24.6%
Integrate Below Market Rate Housing	Project incorporates affordable housing	4%
Neighborhood Enhancement		
Measure	**Description**	**Maximum VMT Reduction**
Improve Pedestrian Network	Project area includes a pedestrian access network	2%
Provide Traffic Calming Measures	Project's streets and intersections feature traffic calming features (Complete Street features)	1%
Parking Policy/ Pricing 20% Maximum VMT Reduction		
Measure	**Description**	**Maximum VMT Reduction**
Limit Parking Supply	Project parking requirements are reduced or eliminated	20%
Unbundle Parking Costs	Project parking and property costs are separate	20%
On-Street Market Pricing	On-street parking utilizes market-rate pricing (such as meters)	5.5%
Transit Improvement 10% Maximum VMT Reduction		
Measure	**Description**	**Maximum VMT Reduction**
Provide BRT System	Establish a Bus Rapid Transit line with operational funding stream	3.2%
Expand Transit Network	Establishes or enhances bus line with operational funding stream	7.4%
Increase Transit Frequency	Reduces headways of existing transit	3.1%
Commute Trip 25% Maximum VMT Reduction		
Measure	**Description**	**Maximum VMT Reduction**
Implement Trip Reduction Program	Proposes a Transportation Management Association (TMA) membership or other comprehensive service	6.2%
Transit Subsidy	Proponent subsidizes sustainable modes of transportation for employees	20.0%
Implement Employee Parking "Cash-Out"	Employer provides cash-value of a parking space to employees who do not use one	7.7%
Workplace Parking Charge	Charge employees for their parking	19.7%
Encourage Telecommuting and Alternative Work Schedules	Allow/require 9/80s, 4/40, or telecommuting	5.5%
Market Commute Trip Reduction	Market sustainable travel options	4.0%
Provide Ride Sharing Program	Establish a carpooling program with associated infrastructure	15.0%

Greenhouse Gas Quantification Methodology for the Strategic Growth Council Affordable Housing and Sustainable Communities Program:
Greenhouse Gas Reduction Fund, Fiscal Year 2015-16 (pp. 12-15). California Air Resources Board. Sacramento: December 18, 2015.

How do I determine my Project's "project setting"?

For Projects with an AHD or HRI component, the following types of Project Settings affect VMT reductions. At concept, applicants must determine the "Project Setting" most similar to that of their Project. The following describes characteristics of Project Setting options *(for details see pp.B-1 through B-4 of AHSC QM)*:

Urban - *75% total maximum project VMT reduction*
A project located within the central city and may be characterized by multi-family housing, located near office and retail.
- **Location relative to the regional core:** these locations are within the CBD or less than five miles from the CBD (downtown Oakland and downtown San Francisco).
- **Ratio or relationship between jobs and housing**: jobs-rich (jobs/housing ratio greater than 1.5)
- **Density character:** building heights in stories: six stories or (much) higher; street pattern: grid; setbacks: minimal; parking supply: constrained on and off street; parking prices: high to the highest in the region
- **Transit availability**: high quality rail service and/or comprehensive bus service at 10 minute headways or less in peak hours

EXAMPLES: San Francisco, Downtown Oakland, Downtown LA, Downtown Fresno

Urban Center - *40% total maximum project VMT reduction*
A project located on an existing site within the central city or inner-ring suburb with high-frequency transit service. Examples may be community redevelopment areas, reusing abandoned sites, intensification of land use at established transit stations, or converting underutilized or older industrial buildings.
- **Location relative to the regional core**: these locations are typically 5 to 15 miles outside a regional CBD
- **Ratio or relationship between jobs and housing**: balanced (jobs/housing ratio ranging from 0.9 to 1.2)
- **Density character***: building heights in stories: two to four stories; typical street pattern: grid; typical setbacks: 0 to 20 feet; parking supply: constrained; parking prices: low to moderate
- **Transit availability**: rail service within two miles, or bus service at 15 minute peak headways or less

EXAMPLES: Fairfax (LA), Albany, San Luis Obispo, Burbank, Merced, Bakersfield, Downtown Santa Barbara

Suburban Center - *20% total maximum project VMT reduction*
A project typically involving a cluster of multi-use development within dispersed, low-density, automobile dependent land use patterns (a suburb). The center may be a historic downtown of a smaller community that has become surrounded by its region's suburban growth pattern in the latter half of the 20th Century.
- **Location relative to the regional core**: these locations are typically 20 miles or more from a regional CBD
- **Ratio or relationship between jobs and housing**: balanced
- **Density character***: building heights in stories: two stories; street pattern: grid; typical setbacks: 0 to 20 feet; parking supply: somewhat constrained on street; ample off-street; parking prices: low (if priced at all)
- **Transit availability**: bus service at 20-30 minute headways and/or a commuter rail station

EXAMPLES: Downtown San Rafael, San Mateo, Sebastapol, Turlock, Ontario

Low Density Suburban - *15% total maximum project VMT reduction*
A project characterized by dispersed, low-density, single-use, automobile dependent land use patterns, usually outside of the central city (a suburb).
- **Location relative to the regional core:** typically 20 miles or more from a regional CBD
- **Ratio or relationship between jobs and housing**: jobs poor
- **Density character**: building heights: one to two stories; street pattern: curvilinear (cul-de-sac based); setbacks: parking is generally placed between the street and office or retail buildings; large-lot residential is common; parking supply: ample, largely surface lot-based; parking prices: none
- **Transit availability**: limited bus service, with peak headways 30 minutes or more

EXAMPLES: Areas that do not fit into one of the other definitions

For Projects with an STI or TRA component, the following Project characteristics affect Vehicle Miles Traveled (VMT) *(see pages. 22-29 of the AHSC QM for details)*:

TAC Methods	Description	Useful Life	Data Needed
Operation of New Bus, Train, Vanpool, or Shuttle Service	New bus service, train service, or commuter vanpools or, shuttles, or shuttles to work sites, homes, or schools. Emissions are reduced by replacing auto trips with higher occupancy service.	Number of years the New Service is funded under the proposed project.	• Years of New Service funding • Ridership for Year 1 and Year Final • Annual VMT of New Service
Operation of New Ferry Service	Emissions are reduced by replacing auto trips with higher occupancy service.	Number of years the New Service is funded under the proposed project.	• Years of New Service funding • Ridership for Year 1 and Year Final • Annual gallons of fuel consumed
Bicycle Paths or Lanes	Bicycle paths (Class 1) or bicycle lanes (Class 2) that are targeted to reduce commute and other non-recreational auto travel. Emissions are reduced by replacing auto trips with bicycle trips	Class 1 bicycle paths: 20 years Class 2 bicycle lanes: 15 years	• Average Daily Traffic for Year 1 and Year Final • Activity Centers near project site • Length of bike project
Pedestrian Facilities	Pedestrian facilities reduce VMT by providing pedestrian access and replacing auto trips with walking trips.	Pedestrian Facilities: 20 years	• Auto trips eliminated for Year 1 and Year Final

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Visit our website for updates
https://www.sgc.ca.gov/s_ahscprogram.php

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